

friction reducing coating.

19
20. (New) The device as recited in claim ~~16~~¹⁵ wherein said engaging bolt is biased by a pretensioning element.

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21. (New) The device as recited in claim ~~16~~¹⁵ wherein said engaging bolt in the engaged position seizes a respective leading edge adjacent to the impact zone of said knife assemblies.

REMARKS

Claims 1 to 15 were rejected under 35 U.S.C. § 103 as being unpatentable over Raybuck. The specification has been amended to correct typographical errors. Claim 1 has been amended to clarify the antecedent terms used in the claims and to clarify the engaging language of claim 1. Claim 14 has been canceled without prejudice. New claims 16 to 21 have been added.

Withdrawal of the rejection is respectfully requested and allowance of the application is respectfully requested.

Rejection of Claims 1 to 15 under 35 U.S.C. §103

Claims 1 to 15 were rejected as being unpatentable under 35 U.S.C. § 103 as being unpatentable over Raybuck.

Raybuck discloses a folder having a cutter cylinder 2, a pin cylinder 1, and delivery cylinder 9 and 10. Signatures are cut between the cutter cylinder 2 and pin cylinder 1, and subsequently delivered to grippers on delivery cylinder 9 or 10. As described at column 3, lines 1 to 5, each cylinder 1, 2 may alternate anvil and pin blocks with knife blocks. This is a conventional pin and knife arrangement. The pins are cam-activated, and are not biased. The pins are not on the cylinder at the knife assembly, but are rather opposite each knife assembly.

Claim 1 has been amended to recite: "the first cylinder having a biased product seizing element assigned to the surface of the first cylinder, the biased product seizing element engaging

said flat material received on the outer circumference of the paper-conducting cylinder so as to hold the flat material on the paper-conducting cylinder.” Support for this language is clearly found in the specification throughout, including in Fig. 2.

The goal of the biased product seizing element of the present invention is not to keep the flat material on the cylinder of the product seizing element, but rather to hold the flat material against another cylinder, namely a cylinder to which the flat material is being transferred.

The pins of Raybuck, and all pins in folders, actually pierce the paper products, and seek to hold keep the product on the cylinder having the pins. Moreover, the pins of Raybuck are cam-activated and there is no reason or motivation to provide the pins with biasing, as the goal of the pins is to pierce the paper. The “biasing” of spring 42 has no relation to the pins, which it is believed to have been asserted as the product seizing elements. If the grippers of cylinder 9 and 10 are asserted as the product seizing elements, these cylinder do not have knife assemblies as claimed, nor is there any reason to provide such knife assemblies.

In any event, claim 1 is now clear that “the biased product seizing element” of the first cylinder engages “said flat material received on the outer circumference of the paper-conducting cylinder so as to hold the flat material on the paper-conducting cylinder” which is completely different cylinder. This feature provides excellent product transfer without having pins.

It is respectfully submitted that one of ordinary skill in the art would not have found it obvious in view of Raybuck to provide the features of claim 1 to any cylinder in Raybuck.

Claim 11 has been amended so as to clarify that the biased product seizing apparatus keeps the flat material on the paper conducting cylinder. Again, Raybuck does not disclose such a feature, in that the pins attempt to keep the flat material on the cylinder with the pins, and the pins of Raybuck are not biased.

Claim 12 recites “A pinless folder apparatus.” Raybuck is not pinless and requires pins for the folder. It is respectfully submitted that one of ordinary skill in the art would not have been capable of modifying the folder of Raybuck to remove the pins, as the pins appear to be essential to Raybuck.

Claim 13 now recites “supporting a leading edge of a web of material on a first

supporting surface of a paper conducting cylinder with a biased product seizing element, the biased product seizing element the biased product element being on another cylinder cooperating with the paper conducting cylinder.” Raybuck does not show or teach this step.

It is respectfully submitted that one of ordinary skill in the art would not have found it obvious in view of Raybuck to provide the features of claims 11, 12 or 13 to the Raybuck folder.

Withdrawal of the rejection with respect to claims 1, 11, 12 and 13 and their dependent claims 2 to 10 and 15 is respectfully requested.

In addition, it is respectfully submitted that the features of dependent claims 6, 7 and 8, namely a product seizing element in the knife box, a product seizing element with a rounded head, a friction reducing coating, are not shown in Raybuck at all, and withdrawal of the rejections to these claims is respectfully requested for this reason as well.

Withdrawal of the rejection to claims 1 to 13 and 15 under 35 U.S.C. § 103 is hereby respectfully requested.

New Claims 16 to 21

New claims 16 to 21 recite the biased engaging bolt of the present invention, which is not a pin. Namely, an engaging bolt does not pierce the printed product, but rather forces the printed product away from the bolt end, as shown for example in Fig. 2. Raybuck desires that the pins pierce the product.

Supplemental IDS

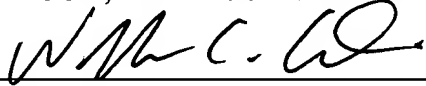
Applicant submits herewith a supplemental IDS disclosing references cited in another application of the present assignee, U.S. Serial No. 09/492,903 filed January 27, 2000, which presently is before Examiner Christopher Harmon in the same Art Unit 3721. The Nagano (already cited in the present application) and Price references have been applied in that application. It is respectfully submitted that neither of these references is of import with respect to the claims of the present application, in that Nagano does not show a biased product seizing element and Price does not show a folding device for paper, but rather a gum wrapper cutting device.

CONCLUSION

It is respectfully requested that the rejections of claims 1 to 13 and 15 be withdrawn, and that new claims 16 to 21 be allowed. It further is respectfully submitted that the present application is now in condition for allowance.

Respectfully submitted,

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ADDENDUM SHOWING CHANGES TO SPECIFICATION AND CLAIMS

IN THE SPECIFICATION

Replace the paragraph beginning at page 3, line 10 as follows:

In further advantageous embodiments according to the present invention said product seizing elements by punctual contact only exert a seizing force upon said respecting flat material which[wich] results in a non-marking of the respecting leading edge by said product seizing elements and consequently in an non opening-up of said multi-layered web of material when including a plurality of ribbons. Said product seizing elements either may extend spaced apart from one another over the entire width of said web of material or the respective paper-conducting cylinder or maybe arranged in the middle or the respective lateral edge portion of said cylinder.

Replace the paragraph beginning at page 6, line 19 as follows:

Said first cylinder 7 such as a cutting cylinder rotates about its respective axis 23 from which the respective outer surface 9 extends by a radius 8. In the respective outer surface 9 of said cutting cylinder 7 knife assemblies 12 are received. Said knife assemblies 12 are received in grooves with respective knife boxes 10. Said knife boxes are arranged within said cutting cylinder by fastening means not shown in greater detail here to allow for a quick exchange for the respective knife boxes upon wear of the respective cutting tips 26 of said knives 12. In an inclined position 31 within said knife boxes 10 respective product seizing elements 27 are arranged. Said product seizing elements 27 include an engaging [board] bolt element 27 having a rounded portion 29. Said rounded portion 29 may include a coating to prevent marking of the respective leading edge when contacted by said head 29 of said engaging bolt 27. Within the respecting housing of said engaging bolt a biasing element such as a pretensioning spring is provided to keep the engaging bolt 27 in its extended position which will be described below.

Replace the paragraph beginning at page 7, line 26 as follows:

Upon further rotation of the respective outer surface 9, 15, respectively in the respective senses of rotation, the head 29 of the respective engaging bolt 27 surrounded by its guide 34, gradually seizes the respective leading edge 25 of the web of material 1, 14 from which then by cooperation of said knife 12 with said anvil bar 16 a signature is severed. During the engagement of said engaging bolt [board] 27 with the respective web of material 1, 24 [27] in the front area thereof a reliable cutting operation is garantied and an accurate positioning of said newly created leading edge 25 of the respective multi-layered web of material is maintained. Due to the force exerted upon the engaging board by the respective biasing or pretentioning element the outer

surface of the leading edge of the web of material is prevented from opening-up during passage of the cutting zone 13. In this stage of rotation of the respective cylinders identified by reference numerals 19 and 32 the respective gripper element 17 is still shown in its retracted position identified by reference numeral 37. The force exerted by the pretentioning or biasing element

upon said engaging bolt 27 is dependent on the thickness of the respective leading edge, on the respective thickness of the paper stock and of the number of ribbons of the web of material 1, 24 to be processed.

Replace the paragraph beginning on page 8, line 12 as follows:

Upon further rotation of cutting cylinder 7 and the paper conducting cylinder 14 said engaging bolt 27 gradually extends out of the respective guide 34 due to the biasing or pretensioning force exerted thereon by a biasing element such as a spring, the previously mentioned pressure source such as a pneumatic or hydraulic system. Consequently, by further extension of said engaging bolt 27 out of its guide 34 the force with which said leading edge is urged against the outer surface 15 of the respective paper-conducting cylinder 14 gradually decreases. However, by the force still exerted upon the leading edge 25, the leading edge 25 is kept in its position above said anvil bar 16. As can be derived from the third stage of rotation 20 given in Fig. 2, the gripper now gradually moves into an extended gripper position 36 to seize the respective leading edge 25 which will be released by said engaging bolt's 27 head portion 29 by further rotation of said cutting cylinder 7 about its [excess] axis of rotation 23. In the respective third stage of rotation 20 said engaging bolt 27 adopts a disengaged position identified by reference numeral 33. Upon further rotation of said paper conducting cylinder 14 in its respective sense of rotation and the cutting cylinder 7 according to its sense of rotation said product seizing element 27 – shaped as an engaging bolt for example – will keep its disengaged position 33, respectively, and upon a completion of a revolution will seize a respective new web of material when supported on the respective outer surface 15 of the paper-conducting cylinder.

Replace the paragraph beginning on page 10, line 1 as follows:

Reference numeral list

- 1[4] web of material
- 2[5] former board
- 3[6] former nose
- 4[7] former rollers
- 5[8] first pair of nips
- 6[9] second pair of nips
- 7[10] cutting cylinder
- 8[11] radius
- 9[12] outer surface
- 10[13] knife box
- 11[14] product seizing element
- 12[15] knife
- 13[16] cutting area
- 14[17] paper conducting cylinder
- 15[18] cylinder surface
- 16[19] anvil bar
- 17[20] gripper
- 18[21] first stage of rotation
- 19[22] second stage of rotation
- 20[23] third stage of rotation

21[24] gripper head
22[25] groove
23[26] excess] axis of rotation
24[27] web of material
25[28] leading edge
26[29] knife tip
27[30] engaging bolt
28[31] center line
29[32] rounded head
30[33] biasing element
31[34] inclined position
32[35] engaging position
33[36] disengaging position
34[37] guide
35[38] support
36[39] extended group of position
37[40] retracted group of position

IN THE CLAIMS

1. (Amended) A folder for printed products [device for seizing a flat material on a transporting surface] comprising:

a first cylinder having a surface and having knife assemblies assigned to the surface;
a paper-conducting cylinder having an outer circumference and supporting a flat material on the outer circumference; and

the first cylinder having a biased product seizing element assigned to the surface of the first cylinder, the biased product seizing element [adopting an] engaging [position upon cooperation with] said flat material received on the outer circumference of the paper-conducting cylinder so as to hold the flat material on the paper-conducting cylinder.

11. (Amended) A paper conducting assembly in a folder apparatus, comprising:

a first cylinder having a circumference and knife assemblies assigned to the circumference;

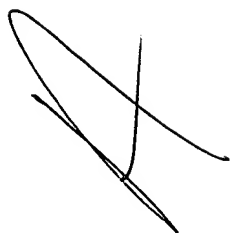
a paper conducting cylinder having an outer circumference and supporting a flat material on the outer circumference; and

a biased product seizing element assigned to the circumference of said first cylinder [adopting an] engaging [position upon cooperation with] said flat material [received] on said outer circumference so as to hold the flat material on the paper conducting cylinder.

13. (Amended) A method for [seizing of] holding a flat material in a folder of a printing press on different supporting surfaces comprising the steps of:

supporting a leading edge of a web of material on a first supporting surface of a paper conducting cylinder with a biased product seizing element, the biased product seizing element the biased product element being on another cylinder cooperating with the paper conducting cylinder; and

having a product seizing element adopt a first disengaged position upon entry of the web of material in a cutting area.

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